ThinkPad

User Guide

ThinkPad 8

Note: Before using this information and the product it supports, be sure to read and understand the following:

- *Safety, Warranty, and Setup Guide*
- *Regulatory Notice*
- "Important safety and handling information" on page iii
- Appendix D "Notices" on page 63

The latest *Safety, Warranty, and Setup Guide* and the *Regulatory Notice* are available on the Lenovo Support Web site at http://www.lenovo.com/UserManual.

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Read this first

Be sure to follow the important tips given here to get the most use and enjoyment out of the tablet. Failure to do so might lead to discomfort or injury, or cause the tablet to fail.

Important safety and handling information

To avoid personal injury, property damage, or accidental damage to your ThinkPad® 8 (hereafter called the tablet), read all of the information in this section before using it.

For detailed operating instructions, refer to the *ThinkPad 8 User Guide* (this publication). You can access the *ThinkPad 8 User Guide* by doing one of the following methods:

- Go to http://www.lenovo.com/UserManual and follow the instructions on the screen.
- Open Windows® Help and Support. Then tap **Lenovo User Guide**.

For additional tips to help you operate the tablet safely, go to:
http://www.lenovo.com/safety

Handle your tablet with care:

Do not drop, bend, puncture, insert foreign objects, or place heavy objects on your tablet. Sensitive components inside might become damaged.

Your tablet screen is made of glass. The glass might break if the tablet is dropped on a hard surface, is the subject of a high impact, or is crushed by a heavy object. If the glass chips or cracks, do not touch the broken glass or attempt to remove it from the tablet. Stop using the tablet immediately and contact Lenovo® technical support for repair, replacement, or disposal information.

Do not disassemble or modify your tablet:

Your tablet is a sealed unit. There are no end-user serviceable parts inside. All internal repairs must be done by a Lenovo-authorized repair facility or a Lenovo-authorized technician. Attempting to open or modify your tablet will void the warranty.

Do not attempt to replace the internal battery:

Replacement of the internal rechargeable battery must be done by a Lenovo-authorized repair facility or a Lenovo-authorized technician. Lenovo-authorized repair facilities or technicians recycle Lenovo batteries according to local laws and regulations.

Prevent your tablet and adapter from getting wet:

Do not immerse your tablet in water or leave it in a location where it can get saturated with water or other liquids.

Use supported charging methods only:

You can use any of the following charging methods to recharge the internal battery of your tablet safely:

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Charging method	Tablet on (display on)	Tablet off or in screen lock mode (display off)
ThinkPad 8 AC Adapter	Supported, but the battery will be charged slowly	Supported (fastest charging method)
ThinkPad Tablet DC Charger	Supported, but the battery will be charged slowly	Supported
USB connection between the micro USB 3.0 connector on the tablet and a USB connector on a personal computer or other devices that comply with the USB 2.0/3.0 standards	Supported, but will compensate for power consumption (slowest charging method)	Supported, but the battery will be charged slowly

Charging devices might become warm during normal use. Ensure that you have adequate ventilation around the charging device. Unplug the charging device if any of the following occurs:

- The charging device has been exposed to rain, liquid, or excessive moisture.
- The charging device shows signs of physical damage.
- You want to clean the charging device.

Lenovo is not responsible for the performance or safety of products not manufactured or approved by Lenovo.

Prevent hearing damage:

Your tablet has a headphone connector. Always use the headphone connector for headphones (also called a headset) or earphones.

CAUTION:
Excessive sound pressure from earphones and headphones can cause hearing loss. Adjustment of the equalizer to maximum increases the earphone and headphone output voltage and the sound pressure level. Therefore, to protect your hearing, adjust the equalizer to an appropriate level.

Excessive use of headphones or earphones for a long period of time at high volume can be dangerous if the output of the headphone or earphone connectors do not comply with specifications of EN 50332-2. The headphone output connector of your tablet complies with EN 50332-2 Sub clause 7. This specification limits the tablet's maximum wide band true RMS output voltage to 150 mV. To help protect against hearing loss, ensure that the headphones or earphones you use also comply with EN 50332-2 (Clause 7 limits) for a wide band characteristic voltage of 75 mV. Using headphones that do not comply with EN 50332-2 can be dangerous due to excessive sound pressure levels.

If your tablet came with headphones or earphones in the package, as a set, the combination of the headphones or earphones and the tablet already complies with the specifications of EN 50332-1. If different headphones or earphones are used, ensure that they comply with EN 50332-1 (Clause 6.5 Limitation Values). Using headphones that do not comply with EN 50332-1 can be dangerous due to excessive sound pressure levels.

Take care when using your tablet in a motor vehicle or on a bicycle:

Always prioritize your safety and the safety of others.Follow the law. Local laws and regulations might govern how you can use mobile electronic devices, such as your tablet, while you drive a motor vehicle or ride a bicycle.

Dispose according to local laws and regulations:

When your tablet reaches the end of its useful life, do not crush, incinerate, immerse in water, or dispose of your tablet in any manner contrary to local laws and regulations. Some internal parts contain substances that can explode, leak, or have an adverse environmental affect if disposed of incorrectly.

See Appendix B “Environmental, recycling, and disposal information” on page 55 for additional information.

Keep your tablet and accessories away from small children:

Your tablet contains small parts that can be a choking hazard to small children. Additionally, the glass screen can break or crack if dropped on or thrown against a hard surface.

Protect your data and software:

Do not delete unknown files or change the name of files or directories that were not created by you; otherwise, your tablet software might fail to work.

Be aware that accessing network resources can leave your tablet vulnerable to viruses, hackers, spyware, and other malicious activities that might damage your tablet, software, or data. It is your responsibility to ensure that you have adequate protection in the form of firewalls, antivirus software, and anti-spyware software and keep this software up to date.

Keep electrical appliances such as an electric fan, radio, high-powered speakers, air conditioner, and microwave oven away from your tablet because the strong magnetic fields generated by these appliances can damage the screen and the data on the tablet.

Be aware of heat generated by your tablet:

When your tablet is turned on or the battery is charging, some parts might become hot. The temperature that they reach depends on the amount of system activity and the level of charge in the battery. Extended contact with your body, even through clothing, could cause discomfort or even a skin burn. Avoid keeping your hands, your lap, or any other part of your body in contact with a hot section of the tablet for any extended time.

Polyvinyl Chloride (PVC) cable and cord notice

WARNING: Handling the cord on this product or cords associated with accessories sold with this product will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. ***Wash hands after handling.***

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Chapter 1. Product overview

This chapter provides an overview of the tablet, including the locations of connectors and controls, tablet features, accessories, specifications, operating environment, and preinstalled Lenovo programs.

Tablet layout

This topic introduces the tablet hardware features to give you the basic information you will need to start using the tablet.

Front view and side view

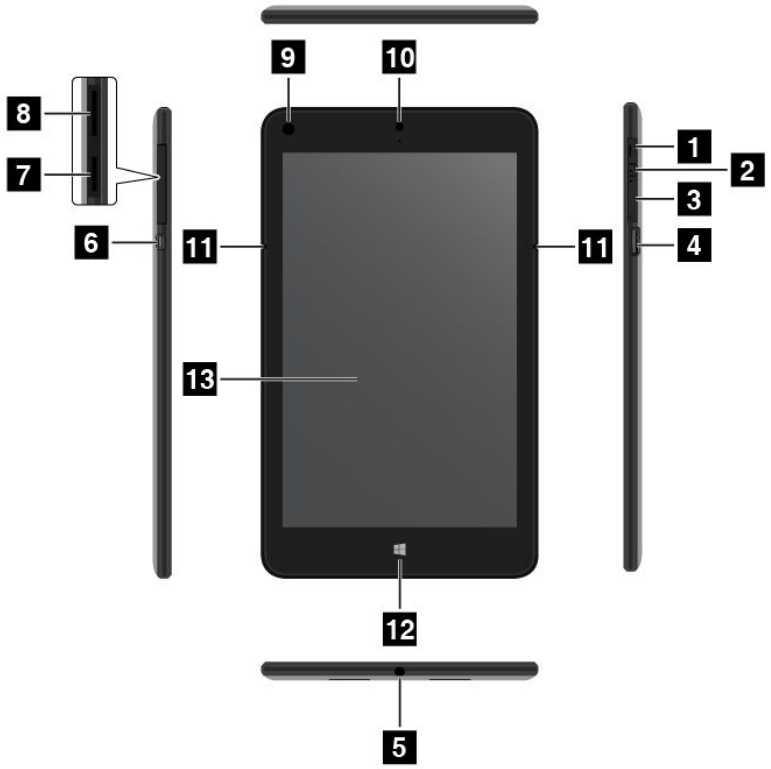

Figure 1. Front view and side view

1 Power button	8 Micro-SIM-card slot
2 Emergency-reset hole	9 Ambient light sensor
3 Volume-control buttons	10 Front-facing camera
4 Micro USB 3.0 connector	11 Microphones
5 Combo audio connector	12 Windows button
6 Micro HDMI™ connector	13 Multi-touch screen
7 Micro SD card reader	

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1 Power button

Press the power button to turn on the tablet.

To turn off the tablet, swipe in from the right edge of the screen to display the charms. Then tap **Settings** → **Power** → **Shut down**.

If the tablet stops responding and you cannot turn it off, press and hold the power button for four seconds or more. If the tablet still is not responding, remove the ac power adapter and use the emergency-reset hole to reset the tablet.

You also can program the power button so that by pressing the power button you can shut down the tablet or put it into sleep or hibernation mode. To achieve this, you must change your power plan settings. To access power plan settings, do the following:

1. From the desktop, tap the battery-status icon in the Windows notification area.
2. Tap **More power options**.
3. In the navigation panel, tap **Choose what the power button does**.
4. Follow the instructions on the screen to change the settings according to your preference.

2 Emergency-reset hole

If the tablet stops responding and you cannot turn it off by pressing and holding the power button, remove the ac power adapter and insert a straightened paper clip into the emergency-reset hole to reset the tablet.

3 Volume-control buttons

Press the volume-up or volume-down button to adjust the tablet volume.

4 Micro USB 3.0 connector

You can use the supplied power cord and the ac power adapter to charge the tablet when the battery power is low. See “Charging the battery” on page 18.

Some models might be shipped with a ThinkPad Micro USB 3.0 to USB 3.0 cable. You can connect the ThinkPad Micro USB 3.0 to USB 3.0 cable to the micro USB 3.0 connector. Through the ThinkPad Micro USB 3.0 to USB 3.0 cable, the tablet can connect to devices compatible with a USB interface, such as a USB mouse, USB keyboard, or USB memory key.

Note: The USB device connected to the micro USB 3.0 connector might influence the wireless LAN, wireless WAN, and GPS functions of your tablet. If your tablet cannot establish wireless LAN and wireless WAN communications, or if your location cannot be pinpointed through the GPS function of your tablet, detach the device from the micro USB 3.0 connector.

5 Combo audio connector

Connect headphones or a headset to listen to stereo sound from the tablet. You also can connect a headset to record audio or make calls.

Note: The combo audio connector does not support a conventional microphone.

6 Micro HDMI™ connector

Your tablet has a micro High-Definition Multimedia Interface (HDMI) connector, which is a digital audio and video interface that can connect a compatible digital audio device or video display such as a high-definition television (HDTV). For more information, see “Using HDMI devices” on page 17.

7 Micro SD card reader

Open the micro SD card reader cover to access the micro secure digital (SD) card reader. Insert a micro SD card into the micro SD card reader for data access or storage. See “Using the micro SD card reader” on page 16 for more information.

8 Micro-SIM-card slot

Open the micro-SIM-card slot cover to access the micro Subscriber Identification Module (SIM) card slot. Insert a micro SIM card to establish a wireless Wide Area Network (WAN) connection. For instructions on how to install a micro SIM card, see “Installing and removing the micro SIM card” on page 21.

Note: The micro-SIM-card slot is not functional on Wi-Fi-only models.

9 Ambient light sensor

The ambient light sensor detects the brightness of the environment. The screen brightness automatically adjusts depending on the ambient light conditions detected by the built-in ambient light sensor.

10 Front-facing camera

Your tablet has a 2-megapixel front-facing camera. You can use the camera to take pictures, create videos, or make video calls in collaboration with Web applications. When the camera is started, the green camera-in-use indicator turns on. For more information, see “Using the cameras” on page 15.

11 Microphones

The built-in microphones capture sound and voice when they are used with an application capable of handling audio.

12 Windows button

Press the Windows button to go to the Start screen.

13 Multi-touch screen

Tap the screen to use the controls on the screen including icons, menu items, and the on-screen keyboard. For more information, see “Using the multi-touch screen” on page 9.

Back-side view

Note: Your tablet might look slightly different from the following illustration.

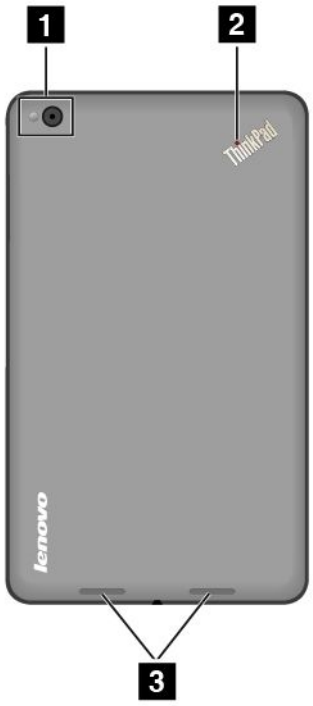


Figure 2. Back-side view

1 Rear-facing camera with a flash	3 Speakers
2 System-status indicator	

1 Rear-facing camera with a flash

Your tablet has an 8-megapixel rear-facing camera with a flash. You can use the camera to take pictures and create videos. For more information, see “Using the cameras” on page 15.

2 System-status indicator

The illuminated dot in the ThinkPad logo on the backside of the tablet works as a system-status indicator.

- **Blinks three times**: The tablet is connected to an ac power source.
- **On**: The tablet is on and in use.
- **Off**: The tablet is off, in sleep mode, or in hibernation mode.

3 Speakers

The integrated speakers provide audio output for video and music playback.

Accessories

The following are some examples of accessories available for your tablet. You can purchase these accessories from the Lenovo Web site at http://www.lenovo.com/accessories/services/index.html or from a Lenovo reseller.

Figure 3. Accessories

- **ThinkPad 8 AC Adapter and power cord**: Use the ac power adapter together with the supplied power cord to provide ac power to your tablet and charge the battery.
- **ThinkPad 8 Quickshot Cover** (for some models): The ThinkPad 8 Quickshot Cover (hereafter called the cover) can be attached to the tablet magnetically. Use the cover to protect the tablet screen, to wake up the tablet or put the tablet into sleep mode conveniently, to launch the camera, and to serve as a stand for the tablet. For more information, see “Using the ThinkPad 8 Quickshot Cover” on page 13.
- **ThinkPad Micro USB 3.0 to USB 3.0 cable** (for some models): Use the ThinkPad Micro USB 3.0 to USB 3.0 cable to connect your tablet to devices compatible with a USB interface, such as a USB mouse, USB keyboard, or USB memory key.

Features

Microprocessor

- To view the microprocessor information of your tablet, swipe in from the right edge of the desktop screen to display the charms. Then click **Settings** → **PC info**.

Operating system

- Microsoft® Windows 8.1

Memory

- 2 GB or 4 GB

Internal storage

- Embedded MultiMediaCard (eMMC)

Display

- Dragontrail Glass
- Size: 210.82 mm (8.3 inches)
- Screen resolution: 1200 x 1920 pixels
- Automatic brightness control (ambient light sensor)
- In-plane switching technology

- Light-emitting diode (LED) backlight technology
- Multi-touch technology

Integrated cameras

- Front-facing camera, two megapixels
- Rear-facing camera with a flash, eight megapixels

Connectors

- One micro USB 3.0 connector
- One micro HDMI connector
- One combo audio connector

Card slot or card reader

- Micro-SIM-card slot
- Micro SD card reader

Wireless features

- Bluetooth 4.0 (on some models)
- Wireless LAN (802.11a/g/n)
- Wireless WAN (on some models)
- Global Positioning System (GPS) satellite receiver (on models with wireless WAN)

Specifications

Size

- Width: 224.3 mm (8.83 inches)
- Depth: 132 mm (5.20 inches)
- Height: 8.8 mm (0.35 inch)

Battery

- 20.5 Wh Li-Polymer battery

Power source (ac power adapter)

- Sine-wave input at 50 to 60 Hz
- Input rating of the ac power adapter: 100 V ac to 240 V ac

Operating environment

- Maximum altitude without pressurization: 5000 m (16 404 ft)
- Temperature:
  - At altitudes up to 2438 m (8000 ft)

    Operating: 5.0°C to 35.0°C (41°F to 95°F)

    Storage: 5.0°C to 43.0°C (41°F to 109°F)
  - At altitudes above 2438 m (8000 ft)

    Maximum temperature when operating under unpressurized conditions: 31.3°C (88°F)

- Relative humidity:
  - Operating: 8% to 80%
  - Storage: 5% to 95%

If possible, place your tablet in a dry, well-ventilated area without direct exposure to sunshine. Do not use or store your tablet in dusty, dirty areas, or extreme hot or cold areas.

Lenovo programs

Your tablet comes with Lenovo programs to help you work more easily and securely.

To access Lenovo programs, swipe in from the right edge of the screen to display the charms. Then tap the **Search** charm to search for the desired program.

The following table provides a brief introduction to some Lenovo programs that might be preinstalled on your tablet.

Note: Preinstalled Lenovo programs vary by geographic locations and are subject to change.

Lenovo Program	Description
Lenovo Companion	Get the information about the accessories for your tablet, view blogs and articles about your tablet, and check for recommended programs.
SHAREit	Share files easily and rapidly across devices such as tablets and smartphones, even without any Internet connection. You can connect to your friends and send photos, folders, and other files through Lenovo SHAREit. Every sharing is quick and simple.
Lenovo QuickControl	Enable you to control your tablet remotely through your smartphone, such as controlling the pointer, control movies and music, give presentations, and more.
Lenovo Settings	Enhance your computing experience by configuring camera and microphone settings, optimizing your power settings, and creating and managing multiple network profiles.
Lenovo Solution Center	Troubleshoot and resolve tablet problems. It combines diagnostic tests, system information collection, security status, and support information, along with hints and tips for maximum system performance.
Lenovo Tools	Provide easy access to various Lenovo applications, such as System Update, Lenovo Solution Center, and so on.
System Update	Keep the software on your tablet up-to-date by downloading and installing software packages, including ThinkVantage® programs, device drivers, Unified Extensible Firmware Interface (UEFI) basic input output system (BIOS) updates, and other third-party programs.

Chapter 2. Using your tablet

This chapter provides instructions on how to use some basic applications and many of your tablet's features.

Initial setup instructions

To use the tablet the first time after you take it out of the box, ensure that you follow the instructions below:

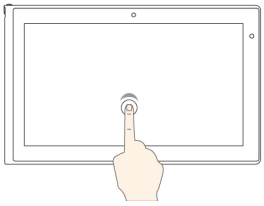
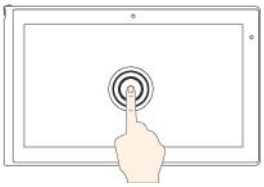
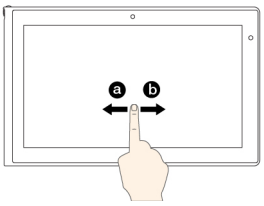
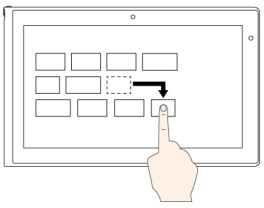
1. Use the supplied power cord and ac power adapter to connect the tablet to an electrical outlet.
2. Press the power button to turn on the tablet.
3. Follow the instructions on the screen to complete the initial setup.

Using the multi-touch screen

This topic provides instructions on how to use the multi-touch screen that is available on some models.

Notes:

- Your computer screen might look different from the following illustrations.
- Depending on the app you use, some gestures might not be available.

Touch gesture (touch models only)	Description
	**Touch**: Tap. **Mouse action**: Click. **Function**: Open an app or perform an action on an open app, such as **Copy**, **Save**, and **Delete**, depending on the app. **Supported operating systems**: Windows 7, Windows 8, and Windows 8.1
	**Touch**: Tap and hold. **Mouse action**: Right-click. **Function**: Open a menu with multiple options. **Supported operating systems**: Windows 7, Windows 8, and Windows 8.1
	**Touch**: Slide. **Mouse action**: Scroll the mouse wheel, move the scroll bar, or click the scroll arrow. **Function**: Scroll through items, such as lists, pages, and photos. **Supported operating systems**: Windows 7, Windows 8, and Windows 8.1
	**Touch**: Drag an item to the desired location. **Mouse action**: Click, hold, and drag an item. **Function**: Move an object. **Supported operating systems**: Windows 7, Windows 8, and Windows 8.1

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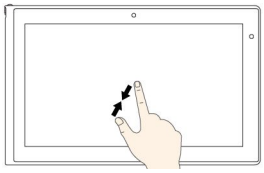
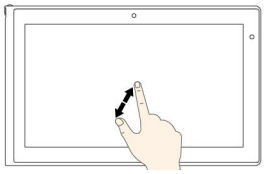
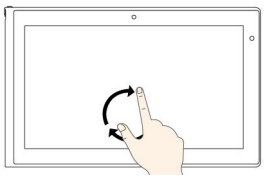
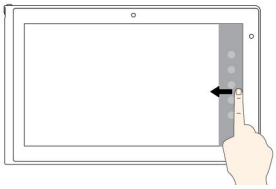
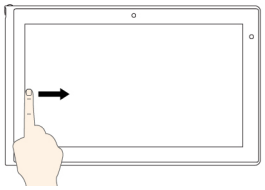
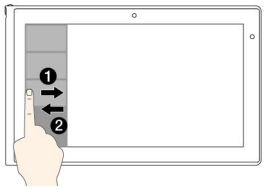
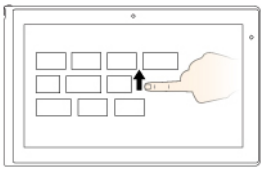
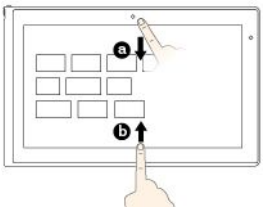
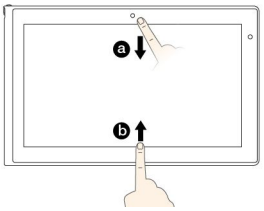
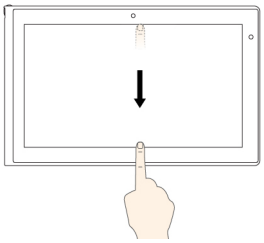
Touch gesture (touch models only)	Description
	**Touch**: Move two fingers closer together. **Mouse action**: Press the Ctrl key while scrolling the mouse wheel backward. **Function**: Zoom out. **Supported operating systems**: Windows 7, Windows 8, and Windows 8.1
	**Touch**: Move two fingers farther apart. **Mouse action**: Press the Ctrl key while scrolling the mouse wheel forward. **Function**: Zoom in. **Supported operating systems**: Windows 7, Windows 8, and Windows 8.1
	**Touch**: Put two or more fingers on an item and then rotate your fingers clockwise or counterclockwise. **Mouse action**: If the app supports rotation, click the rotation icon. **Function**: Rotate an item. **Supported operating systems**: Windows 7, Windows 8, and Windows 8.1
	**Touch**: Swipe in from the right edge. **Mouse action**: Move the pointer to the bottom-right or top-right corner of your screen. **Function**: Display the charms that contain system commands, such as **Start**, **Settings**, **Search**, **Share**, and **Devices**. **Supported operating system**: Windows 8 and Window 8.1
	**Touch**: Swipe in from the left edge. **Mouse action**: Move the pointer to the top-left corner of your screen, and then click. Keep clicking to cycle through the open apps. **Function**: Cycle through and switch to open apps. **Supported operating system**: Windows 8 and Window 8.1
	**Touch**: Swipe in and out on the left edge. **Mouse action**: Move the pointer to the top-left corner of the screen, and then move the pointer downward along the left edge. To make a selection, click the desired app. **Function**: View the recently used apps or select an active app from the list. **Supported operating system**: Windows 8 and Window 8.1

Touch gesture (touch models only)	Description
	**Touch**: Swipe up to the top edge. **Mouse action**: Click the downward arrow (ⓘ) located near the bottom-left corner of the Start screen. **Function**: View all apps on the Start screen. **Supported operating system**: Windows 8 and Window 8.1
	**Touch**: Swipe in from the top or bottom edge of the Start screen, tap **Customize**, and then tap the desired icon. **Mouse action**: Right-click a blank area on the Start screen, click **Customize**, and then click the desired icon. **Function**: Customize tiles on the Start screen, or uninstall an app. **Supported operating system**: Windows 8 and Window 8.1
	**Touch**: Swipe in from the top or bottom edge of an open app. **Mouse action**: Right-click anywhere on an open app. **Function**: View the app commands on an open app, such as **Copy**, **Save**, and **Delete**, depending on the app. **Supported operating system**: Windows 8 and Window 8.1
	**Touch**: Swipe in from the top edge to the bottom on an open app. **Mouse action**: From the top edge of the screen, click, hold, and move the pointer to the bottom of the screen. Then, release the button. **Function**: Close the current app. **Supported operating system**: Windows 8 and Windows 8.1

Tips on using the multi-touch screen

- The multi-touch screen is a glass panel covered with a plastic film. Do not apply pressure or place any metallic object on the screen, which might damage the touch panel or cause it to malfunction.
- Do not use fingernails, gloved fingers, or inanimate objects for input on the screen.
- Regularly calibrate the accuracy of the finger input to avoid a discrepancy.

Tips on cleaning the multi-touch screen

- Turn off the computer before cleaning the multi-touch screen.
- Use a dry, soft, and lint-free cloth or a piece of absorbent cotton to remove fingerprints or dust from the multi-touch screen. Do not apply solvents to the cloth.
- Gently wipe the screen using a top-down motion. Do not apply any pressure on the screen.

Using the On-Screen Keyboard or the touch keyboard and handwriting panel

Use the On-Screen Keyboard or the touch keyboard and handwriting panel to type text, numbers, symbols, and other characters. The touch keyboard and handwriting panel also can be used to perform handwriting. When you rotate the tablet, the On-Screen Keyboard or the touch keyboard and handwriting panel automatically rotates to the corresponding portrait or landscape view.

To open the On-Screen Keyboard, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap the **Search** charm to search for **On-Screen Keyboard**.
3. Tap **On-Screen Keyboard**.

To open the touch keyboard and handwriting panel, do one of the following:

- On the desktop, tap the keyboard icon in the Windows notification area.
- On the Start screen, the touch keyboard and handwriting panel is displayed automatically anytime you need to type.
- On the Desktop or the Start screen, do the following:
    1. Swipe in from the right edge of the screen to display the charms.
    2. Tap the **Settings** charm.
    3. Tap **Keyboard → Touch keyboard and handwriting panel**.

To configure the input language, do the following:

1. From the desktop, swipe in from the right edge of the screen to display the charms.
2. Tap **Settings → Control Panel**.
3. Tap **Clock, Language, and Region → Change input methods**.
4. Follow the instructions on the screen to configure the input language.

Changing the startup behavior to open either the desktop or the Start screen

You can set the tablet to open either the desktop or the Start screen by default. To set the default startup screen, do the following:

1. On the desktop, tap and hold on the taskbar. A menu is displayed.
2. Tap **Properties**. The Taskbar and Navigation properties window is displayed.
3. On the **Navigation** tab, locate the **Start screen** section, and then do one of the following:
    - To set the desktop as your default startup screen, select **When I sign in or close all apps on a screen, go to the desktop instead of Start** so a check is visible.
    - To set the Start screen as your default startup screen, remove the check from the **When I sign in or close all apps on a screen, go to the desktop instead of Start** checkbox.
4. Tap **OK** to save the new setting.

Downloading games and applications

To extend the functionality of your tablet, download and install additional applications from the Windows Store and Lenovo App Store. Both Windows Store and Lenovo App Store provide an easy and quick way for you to shop for games and mobile applications.

To download or buy an application or a game from Windows Store, tap **Store** from the Start screen, and then follow the instructions on the screen.

To download or buy an application or a game from Lenovo App Store, do the following:

1. From the Start screen, tap **Lenovo App Store**.
2. Scroll and browse listed applications or games to locate the desired application or game.
3. Tap the application or game, and then follow the instructions on the screen to download and install it.

Using the ThinkPad 8 Quickshot Cover

If you have purchased a ThinkPad 8 Quickshot Cover (hereafter called the cover), refer to this topic for instructions on how to use the cover.

To use the cover, attach the cover to the tablet first as shown. The cover will be attached to the tablet magnetically.

Put the tablet into sleep mode or wake up the tablet

If the cover is open and the tablet is on, the tablet, by default, enters sleep mode automatically after you close the cover.

If the cover is closed and the tablet is in sleep mode, the tablet, by default, wakes up from sleep mode when you open the cover.

You also can change the settings so that by closing the cover you can shut down the tablet, put the tablet into hibernation mode, or do nothing. To achieve this, you must change your lid settings by doing the following:

1. From the desktop, swipe in from the right edge of the screen to display the charms.
2. Tap **Settings** → **Control Panel** → **Hardware and Sound** → **Power Options**.
3. In the navigation panel, tap **Choose what closing the lid does**.
4. Follow the instructions on the screen to choose an option according to your preference.

Launch the camera

When you use the tablet with the cover open to an angle of 360 degrees, you can flip over the magnetic tab of the cover as shown to launch the camera automatically.

By default, this function is enabled. If you want to disable this function, do the following:

1. From the Start screen, tap **Lenovo Settings** → **Camera**.
2. In the **Quickshot** section, slide the control to the left to disable it.

Serve as a stand for the tablet

The cover can serve as a stand for the tablet as shown. In this way, you can use the tablet to watch movies, view photos, or make a presentation conveniently.

Using the cameras

Your tablet has two cameras, a front-facing camera and a rear-facing camera. The rear-facing camera has a flash and an auto-focus feature that enables you to capture high-quality pictures and videos.

To launch a camera and configure the camera settings, do the following:

1. From the Start screen, tap **Lenovo Settings** → **Camera**.
2. Follow the instructions on the screen to configure settings and use the camera.

To switch between the front-facing camera and the rear-facing camera, do the following:

1. From the Start screen, tap **Lenovo Settings** → **Camera**.

2. In the **View** section, select **Front-facing camera** or **Rear-facing camera** from the **Select a camera** drop-down list box to switch the cameras.

You also can use the camera with other applications that provide features such as photographing, video capturing, and video conferencing. To download other applications, tap **Lenovo App Store** or Windows **Store** from the Start screen. Then follow the instructions on the screen.

Using the micro SD card reader

Your tablet has a micro SD card reader.

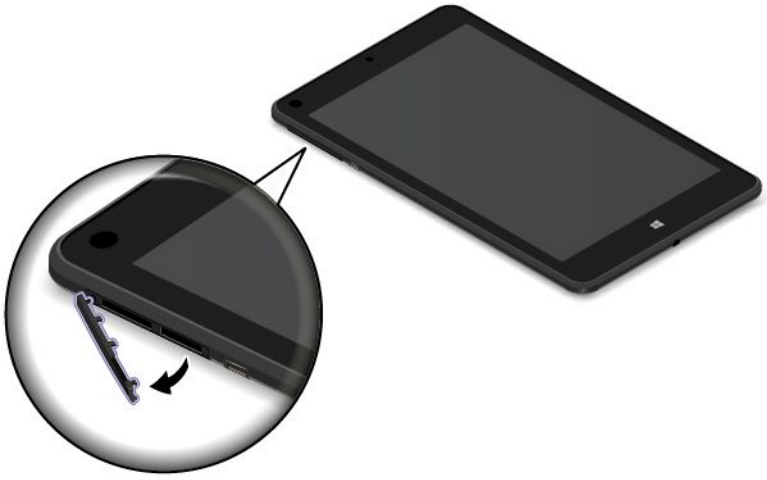
To locate the micro SD card reader, see “Tablet layout” on page 1.

Installing a micro SD card

Attention: Before handling a micro SD card, touch a metal table or a grounded metal object. This action reduces any static electricity from your body. Static electricity can damage the card.

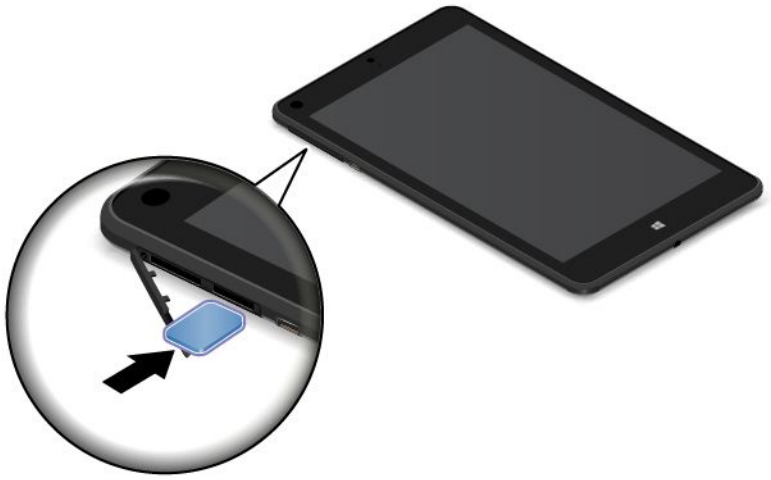
To install a micro SD card into the micro SD card reader, do the following:

1. Open the card reader cover.



2. Ensure that the metal contacts of the card are facing down and pointing toward the tablet.

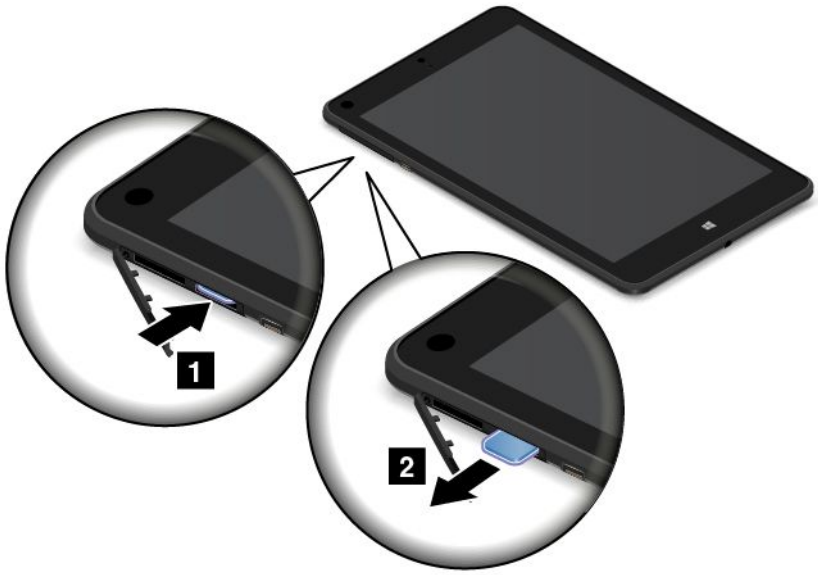
3. Insert the card into the micro SD card reader. The card might stop before it is completely installed into the card reader. Ensure that you insert the card firmly until you hear a click.



Removing a micro SD card

To remove a micro SD card, do the following:

1. Open the card reader cover.
2. Push the micro SD card inward a little until you hear a click **1**. Then, release it. The micro SD card pops out.
3. Gently slide the card out of the card reader **2**.



Using HDMI devices

Your tablet has a micro HDMI connector that you can use to connect an external display for video output. To locate the micro HDMI connector, see “Tablet layout” on page 1.

To configure screen settings for the external display, do the following:

1. Swipe in from the right edge of the screen to display charms.

2. Tap the **Devices** charm.
3. Tap **Project → Second screen**.
4. Tap to select a presentation scheme.

Using synchronization solutions

By using synchronization solutions, you can easily synchronize settings between your tablet and other personal computer.

Synchronizing settings by using the Windows synchronization solution

To access Windows synchronization solution, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap **Settings → Change PC settings**.
3. In the navigation panel, tap **OneDrive → Sync settings**.
4. Configure settings as desired.

Synchronizing files by using the Lenovo Cloud solution

The Lenovo Cloud solution enables you to access, view, upload, or download massive resources, software, and information on a remote cloud server in a secured environment.

For more information about the Lenovo Cloud solution, go to http://www.lenovo.com/cloud.

Using the GPS satellite receiver

Your tablet might have a global positioning system (GPS) satellite receiver that enables you to pinpoint your location down to the street level. Use location-based applications to find your current location, get directions to your destination, and find other location-based information.

Notes:

- The GPS satellite receiver is only available for wireless WAN models.
- By default, the GPS satellite receiver is enabled. For a longer battery life, disable the GPS satellite receiver when not in use. To disable the GPS satellite receiver, do the following:
  1. Swipe in from the right edge of the screen to display the charms.
  2. Tap **Settings → Change PC settings**.
  3. In the navigation panel, tap **Network → Airplane mode**.
  4. In the **GNSS** section, slide the control to the left to disable the GPS satellite receiver.

Power management

This section provides instructions on how to charge the battery, how to extend the battery life between charges, and how to check the battery status.

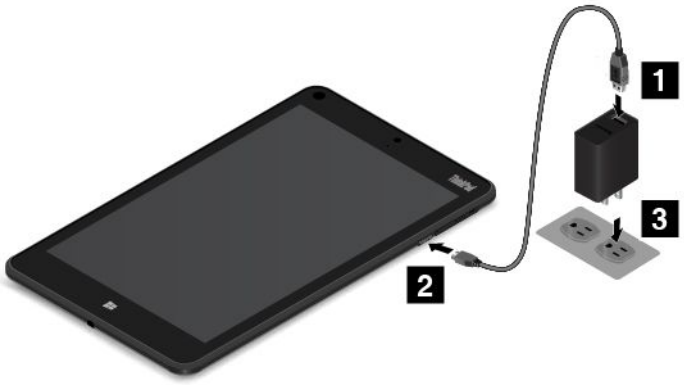
Charging the battery

The tablet is shipped with an ac power adapter and a power cord to charge the tablet from any standard ac power outlet.

Note: The battery is not fully charged when shipped.

To charge the battery, do the following:

1. Connect the power cord to the ac power adapter 1
2. Connect the power cord to the micro USB 3.0 connector on the tablet 2.



3. Connect the ac power adapter into a standard ac power outlet 3.
4. Disconnect the ac power adapter from your tablet when the battery power is full, or leave the ac power adapter connected to operate from ac power.

Alternatively, you can use any of the following charging methods to recharge the internal battery of your tablet safely:

Charging method	**Tablet on (display on)**	**Tablet off or in screen lock mode (display off)**
ThinkPad 8 AC Adapter	Supported, but the battery will be charged slowly	Supported (fastest charging method)
ThinkPad Tablet DC Charger	Supported, but the battery will be charged slowly	Supported
USB connection between the micro USB 3.0 connector on the tablet and a USB connector on a personal computer or other devices that comply with the USB 2.0/3.0 standards	Supported, but will compensate for power consumption (slowest charging method)	Supported, but the battery will be charged slowly

Attention: Use only Lenovo-approved ac power adapters. Unauthorized ac power adapters could cause severe damage to the tablet.

Extending the battery life between charges

When you are traveling outdoors with your tablet and ac power is not available, you can extend the battery life by doing the following:

- Turn off Wi-Fi, mobile network, and Bluetooth when not in use.

  To turn off Wi-Fi, mobile network, and Bluetooth, do the following:

  1. Swipe in from the right edge of the screen to display the charms.
  2. Tap **Settings → Change PC settings**.
  3. In the navigation panel, tap **Network → Airplane mode**.
  4. Slide the control to the right to turn on **Airplane mode** to disable all wireless devices.

- Turn off automatic synchronization if you do not need it.

  To turn off the automatic synchronization function, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap **Settings** → **Change PC settings**.
3. In the navigation panel, tap **OneDrive** → **Sync settings**.
4. Switch off **Sync settings with OneDrive**.

- Lower the brightness level of the screen.

  To lower the brightness level of the screen, do the following:

  1. Swipe in from the right edge of the screen to display the charms.
  2. Tap **Settings** → **Brightness**.
  3. Slide the control down to lower the brightness.

- Enter sleep mode when the tablet is temporarily not in use.

  To enter sleep mode, do one of the following:

  – Close the ThinkPad 8 Quickshot Cover.

  – To enter sleep mode from the operating system, do the following:

    1. Swipe in from the right edge of the screen to display the charms.
    2. Tap **Settings** → **Power** → **Sleep**.

- Turn off your tablet if you are not going to use it for a while.

  To turn off your tablet, do the following:

  1. Swipe in from the right edge of the screen to display the charms.
  2. Tap **Settings** → **Power** → **Shut down**.

Checking the battery status

Get the approximate status of your battery at any time by checking the desktop battery-status icon in the Windows notification area.

To check for the accurate status and adjust your tablet power settings to achieve the best balance between performance and power saving, do the following:

1. From the Start screen, tap **Lenovo Settings** → **Power**.
2. Check your battery status and configure settings.

Chapter 3. Wireless networks and devices

Your tablet can connect to a variety of networks and devices, including mobile networks (3G or 4G), Wi-Fi data networks, and Bluetooth devices.

Note: Some tablet models can connect to both mobile networks (3G or 4G) and Wi-Fi networks, while others can connect to Wi-Fi networks only. If your tablet supports Wi-Fi connection only, the information related to mobile networks does not apply to your tablet.

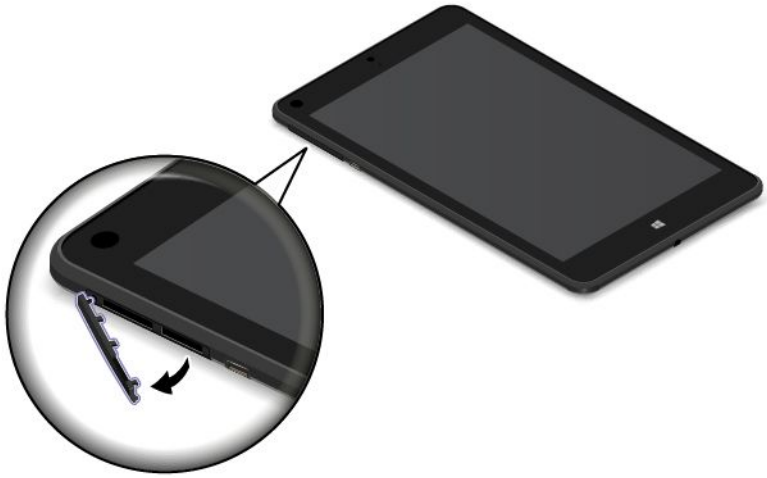
Installing and removing the micro SIM card

If the tablet supports mobile network connection, it might require a micro SIM card to connect to a mobile network. Depending on the country or region of delivery, the micro SIM card might be shipped with the tablet or you need to purchase one from the service carrier.

Attention: When installing or removing the micro SIM card, do not touch the micro SIM card metal connectors. Always hold the tablet in your hand before you install or remove the micro SIM card to avoid electrostatic discharges.

To install the micro SIM card, do the following:

1. Turn off the tablet.
2. Open the micro-SIM-card slot cover. Then locate the micro-SIM-card slot. See “Tablet layout” on page 1.



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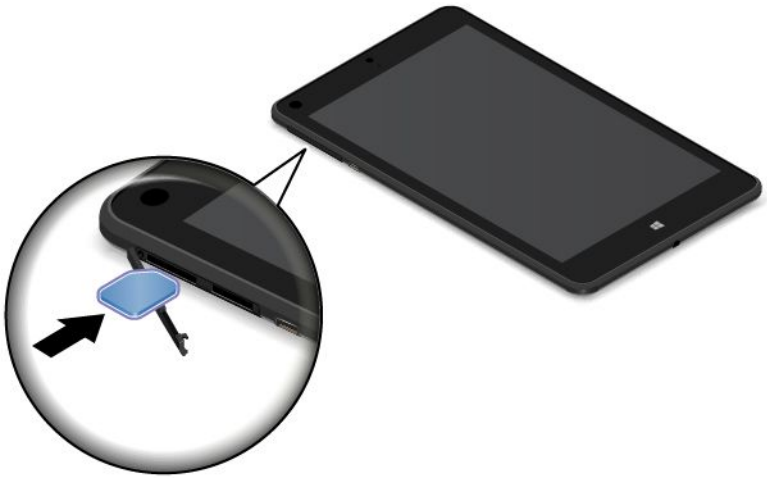
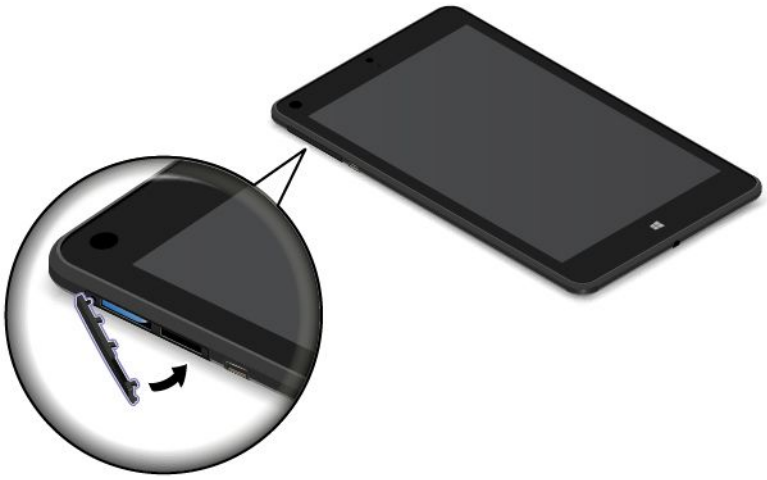
3. Hold the micro SIM card with the metal contacts facing down, and then insert it firmly into the micro-SIM-card slot as shown until you hear a click.



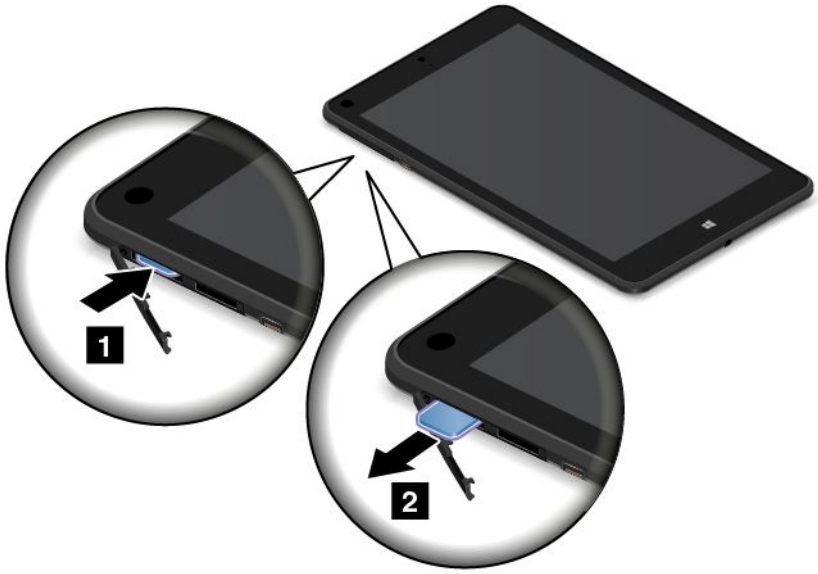
4. Close the micro-SIM-card slot cover and turn on your tablet.



To remove the micro SIM card, do the following:

1. Turn off the tablet.
2. Open the micro-SIM-card slot cover.

3. Push the micro SIM card inward until you hear a click 1. The micro SIM card ejects. Gently slide the micro SIM card out of the slot 2.



4. Close the micro-SIM-card slot cover.

Determining which mobile network you are using

If you have connected to a network, you can check the network name to see which mobile network you are using.

To check the network name, do one of the following:

- Swipe in from the right edge of the screen to display the charms. Then tap the **Settings** charm. The network name is displayed under the network icon.
- On the desktop, move the pointer to the network icon in the Windows notification area. The network name is displayed.

Connecting to a Wi-Fi network

Wi-Fi is a wireless networking technology that provides network access at distances of up to 100 meters (328 feet) depending on the Wi-Fi router and your surroundings.

A Wi-Fi connection requires access to a functioning Wireless Access Point (WAP), also called a hotspot. Some hotspots are open to the public, but some others implement security features to limit access to specific groups or individuals.

Note: The range and quality of the Wi-Fi signal are affected by the number of connected devices, the infrastructure, and the objects through which the signal is transmitted.

Connecting to a Wi-Fi network

To establish a Wi-Fi network connection, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap the **Settings** charm.
3. Tap the network icon. A list of available Wi-Fi networks is displayed.

4. Tap the ID of the network you want to connect.
5. Follow the instructions on the screen to connect to the Wi-Fi network.

To view security, address, and other information about the Wi-Fi network you are connected, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap **Settings** → **Change PC settings**.
3. In the navigation panel, tap **Network** → **Connections**.
4. In the **Wi-Fi** section, tap the network name to view the information.

The tablet supports the proxy feature for Wi-Fi connection. The proxy feature enables you to access more Web-based source and browse Internet more securely. If you want to configure the proxy settings when you are connecting to a Wi-Fi network, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap **Settings** → **Change PC settings**.
3. In the navigation panel, tap **Network** → **Proxy**.
4. Follow the instructions on the screen to configure the proxy settings.

Adding a Wi-Fi network

If you want to access a Wi-Fi network that does not broadcast its network name (also called a service set identifier or SSID), you must add that Wi-Fi network before you can connect to it.

To add a Wi-Fi network, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap the **Settings** charm.
3. Tap the network icon. A list of available Wi-Fi networks is displayed.
4. Tap **Hidden network**.
5. Follow the instructions on the screen to add a Wi-Fi network.

Adding a network profile

Each location profile stores all the network and Internet configuration settings needed for connecting to a network infrastructure from a specific location such as a home or an office. By switching between location profiles as you move your tablet from place to place, you can quickly and easily connect to a network with no need to reconfigure your settings manually and restart the tablet each time.

To add a network profile, do the following:

1. From the Start menu, tap **Lenovo Settings**.
2. Tap **Location Awareness**.
3. Follow the instructions on the screen to add a network profile.

Connecting to a mobile network

A micro SIM card is required to connect to a mobile network. Refer to “Installing and removing the micro SIM card” on page 21 for instructions on how to install a micro SIM card.

Note: Some tablets support access to Wi-Fi networks only. See “Connecting to a Wi-Fi network” on page 23 for instructions on connecting to a Wi-Fi network.

To connect to the mobile network, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap the **Settings** charm.
3. Tap the network icon. A list of available networks is displayed.
4. In the **Mobile broadband** section, slide the control to the right to turn it on.
5. Tap the network name. A menu is displayed.
6. Tap **Connect**.

When you are connected to the mobile network, set the active mobile network as metered connection to reduce the amount of data you send and receive.

To set the active mobile network as metered connection, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap **Settings → Change PC settings**.
3. In the navigation panel, tap **Network → Connections**.
4. In the **Mobile broadband** section, tap the network name. A menu is displayed.
5. In the **Set as a metered connection** section, slide the control to the right to turn it on.

After you set your mobile network as a metered connection, you can disable the Download over metered connections feature to prevent extra charges.

To disable the Download over metered connections feature, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap **Settings → Change PC settings**.
3. In the navigation panel, tap **PC and devices → Devices**.
4. In the **Download over metered connections** section, slide the control to the left to turn it off.

Sharing your Internet connection

You can share your mobile broadband Internet connection with multiple devices.

To share your Internet connection, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap **Settings → Change PC settings**.
3. In the navigation panel, tap **Network → Connections**.
4. In the **Mobile broadband** section, tap the network name. A menu is displayed.
5. In the **Share this connection** section, slide the control to the right to turn it on.

Using Bluetooth devices

Bluetooth is a short-range wireless communications technology. Use Bluetooth to establish a wireless connection with another Bluetooth-enabled device over a distance of about 10 m (32.8 ft).

Pairing with a Bluetooth device

To connect and exchange data with another Bluetooth device, pair your tablet with the Bluetooth device by doing the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap **Settings → Change PC settings**.

3. In the navigation panel, tap **PC and devices → Bluetooth**.
4. Slide the control to the right to turn it on. The tablet will search for Bluetooth devices.
5. When the Bluetooth device you want to pair is found, tap the ID of the Bluetooth device.
6. Tap **Pair**.

Unpairing a Bluetooth device

To unpair a Bluetooth device, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap **Settings → Change PC settings**.
3. In the navigation panel, tap **PC and devices → Bluetooth**.
4. Tap the ID of the Bluetooth device you want to unpair.
5. Tap **Remove device**. A notification prompt is displayed.
6. Tap **Yes**.

Chapter 4. Security

This chapter provides information about how to protect the information stored on your tablet.

Using passwords

You can help prevent your tablet from unauthorized use by using passwords. Once you set a password, a prompt is displayed on the screen each time you turn on the tablet. Enter your password at the prompt. You cannot use the tablet unless you type the correct password.

Passwords and sleep mode

If you have set a Windows password and you put your tablet into sleep mode, you will be prompted to enter the password when resuming operation.

If you use your email address as a user account to sign in to Windows, enter your email password when resuming operation.

Supervisor password

If you have set a supervisor password in the ThinkPad Tablet Setup program, you will be prompted to enter a supervisor password when you start the ThinkPad Tablet Setup program.

The supervisor password protects the system information stored in ThinkPad Tablet Setup. Without it, no one can change the configuration of the tablet.

Note: The system administrator can set the same supervisor password on many tablets to make administration easier.

Setting, changing, or removing a supervisor password

Only a system administrator can set, change, or remove a supervisor password.

To set, change, or remove a supervisor password, do the following:

1. Print these instructions.
2. Save all open files, and exit all applications.
3. Press the power button and the volume-up button at the same time when you turn on the tablet. The ThinkPad Tablet Setup program menu opens.
4. Tap **Security**.
5. Tap **Password**.
6. Depending on your needs, do one of the following:
   - To set a password, do the following:
     a. Tap **Enter**. A window opens. In the **Enter New Password** field, enter a desired password.
     b. In the **Confirm New Password** field, reenter the password and tap **OK**.
     c. In the **Changes have been saved** window, tap **OK**.
   - To change a password, do the following:
     a. Tap **Enter**. A window opens. In the **Enter Current Password** field, enter the current supervisor password.

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b. In the **Enter New Password** field, enter a new supervisor password.
c. In the **Confirm New Password** field, reenter the new supervisor password and tap **OK**.
d. In the **Changes have been saved** window, tap **OK**.

- To remove a password, do the following:
  a. Tap **Enter**. A window opens. In the **Enter Current Password** field, enter the current supervisor password.
  b. Leave the **Enter New Password** and **Confirm New Password** fields blank. Tap **OK**.
  c. In the **Changes have been saved** window, tap **OK**.

Attention: It is recommended that you record your password and store it in a safe place. If you forget your supervisor password, Lenovo cannot reset your password. You must take your tablet to a Lenovo reseller or a Lenovo marketing representative to have the system board replaced. Proof of purchase is required, and a fee will be charged for parts and service.

7. Save configuration changes and exit.

The next time you open the ThinkPad Tablet Setup program, you will be prompted to enter your password to proceed.

Setting the security chip

Strict security requirements are imposed on network client computers that transfer confidential information electronically. Depending on the options you ordered, your tablet might have an embedded security chip, a cryptographic microprocessor.

Setting the security chip

The choices offered on the **Security Chip** submenu under the **Security** menu of the ThinkPad Tablet Setup program are the following:

- **Security Chip Selection**: select the security chip you want to use.
- **Security Chip**: activate, inactivate, or disable the security chip.
- **Clear Security Chip**: clear the encryption key.

Notes:

1. Ensure that the supervisor password has been set in the ThinkPad Tablet Setup program. Otherwise anyone can change the settings for the security chip.
2. If the security chip is removed or replaced, or a new one has been added, the tablet will not start. You will hear four cycles of four beeps each.
3. If the security chip is inactive or disabled, the **Clear Security Chip** option will not be displayed.
4. When you clear the security chip, be sure to turn your tablet off and then turn it on again after you set the security chip to **Active**. Otherwise, the **Clear Security Chip** option is not displayed.

To set an item on the **Security Chip** submenu, do the following:

1. Print these instructions.
2. Save all open files, and exit all applications.
3. Press the power button and the volume-up button at the same time when you turn on the tablet. The ThinkPad Tablet Setup program menu opens.
4. Tap **Security**.
5. Tap **Security Chip**.

6. Set the items that you want to set.
7. Save configuration changes and exit.

Using firewalls

If your system is preinstalled with a firewall program, it protects against computer Internet security threats, unauthorized access, intrusions, and Internet attacks. It also protects your privacy.

For more information about how to use the firewall program, refer to the online help that comes with the program.

Protecting data against viruses

Your tablet is preinstalled with an antivirus program so you can detect and eliminate viruses. The antivirus program is designed to help you detect and eliminate viruses.

Lenovo provides a full version of antivirus software on your tablet with a free 30-day subscription. After 30 days, you must renew the license to continue receiving the antivirus software updates.

For more information about how to use your antivirus software, refer to the help system of your antivirus software.

Chapter 5. Recovery overview

This section provides information about the recovery solutions.

A Windows recovery image is preinstalled in the recovery partition on your tablet. The Windows recovery image enables you to refresh your tablet, or reset your tablet to the factory default settings.

You can create recovery media as backups or replacement for the Windows recovery image. With the recovery media, you can troubleshoot and fix the problems on your tablet even if you cannot start the operating system. It is recommended that you create recovery media as early as possible. For more information, see “Creating and using recovery media” on page 33.

Refreshing your tablet

If your tablet does not perform well and the problem might be caused by a recently installed program, you can refresh your tablet without losing your personal files or changing your settings.

Attention: If you refresh your tablet, the programs that came with your tablet and the programs that you installed from Windows Store will be reinstalled, but all other programs will be removed.

To refresh your tablet, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap **Settings** → **Change PC settings**.
3. In the navigation panel, tap **Update and recovery** → **Recovery**.
4. In the **Refresh your PC without affecting your files** section, tap **Get started**.
5. Follow the instructions on the screen to refresh your tablet.

Resetting your tablet to the factory default settings

If you want to recycle your tablet or just start over, you can reset your tablet to the factory default settings. Resetting the tablet will reinstall the operating system, reinstall all the programs that came with your tablet, and reset all the settings to the factory default settings.

Attention: If you reset the tablet to the factory default settings, all your personal files and settings will be deleted. To avoid data loss, make a backup copy of all the data that you want to keep.

To reset your tablet to the factory default settings, do the following:

- Using the recovery application provided by Microsoft:
  1. Connect your tablet to ac power or fully charge your tablet to ensure that there will be no power interruption during the recovery process. For instructions on how to check the battery status, refer to “Checking the battery status” on page 20.
  2. Swipe in from the right edge of the screen to display the charms.
  3. Tap **Settings** → **Change PC settings**.
  4. In the navigation panel, tap **Update and recovery** → **Recovery**.
  5. In the **Remove everything and reinstall Windows** section, tap **Get started**. Then tap **Next** to confirm the operation.
  6. Depending on your needs, do one of the following:

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- To perform a quick format, tap **Just remove my files** to start the process. The process will take several minutes.
- To perform a complete format, tap **Fully clean the drive** to start the process. The process will take several hours.

7. Follow the instructions on the screen to reset your tablet to the factory default settings.

- Using a USB recovery key provided by Lenovo:

  To obtain a USB recovery key, contact the Lenovo Support center. Shipping and handling fees apply. For a list of the Lenovo Support phone numbers for your country or region, go to http://www.lenovo.com/support/phone or refer to the *Safety, Warranty, and Setup Guide* that comes with your computer.

  Note: Use a USB recovery key to reset your tablet to the factory default settings only when the recovery application fails to reset your tablet.

  1. Fully charge your tablet to ensure that there will be no power interruption during the recovery process. For instructions on how to check the battery status, refer to “Checking the battery status” on page 20.
  2. Turn off the tablet, wait for about five seconds, and then connect the USB recovery key to the micro USB 3.0 connector of your tablet by using the ThinkPad Micro USB 3.0 to USB 3.0 cable.

     Note: The ThinkPad Micro USB 3.0 to USB 3.0 cable is provided for some tablet models. If you do not find such a cable in your product package, you can purchase it from http://www.lenovo.com/essentials.
  3. Press and hold the power button together with the volume-up button at the same time to enter the ThinkPad Setup program.
  4. Tap **Startup**. On the **Boot** submenu, drag **USB CD/DVD:** upward until **USB CD/DVD:** is shown as the first startup device.
  5. Tap **Save,** and then tap **Yes** to save your configuration.
  6. Tap **Restart** and follow the on-screen instructions to restart the tablet. After the tablet restarts, the recovery program opens automatically.
  7. Select the language you prefer in the drop-down list box and click **Next**.
  8. Follow the on-screen instructions to reset your tablet to the factory default settings.

Using the advanced startup options

With the advanced startup options, you can change the firmware settings of the tablet, change the startup settings of the Windows operating system, start the tablet from an external device, or restore the Windows operating system from a system image.

To use the advanced startup options, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap **Settings → Change PC settings**.
3. In the navigation panel, tap **Update and recovery → Recovery**.
4. In the **Advanced startup** section, tap **Restart now → Troubleshoot → Advanced options**.
5. Select a desired startup option, then follow the instructions on the screen.

Recovering your operating system if Windows 8.1 fails to start

The Windows recovery environment on your tablet is capable of operating independently from the Windows 8.1 operating system. This enables you to recover or repair the operating system even if the Windows 8.1 operating system fails to start.

After two consecutive failed boot attempts, the Windows recovery environment starts automatically. Then you can choose repair and recovery options by following the instructions on the screen.

Note: Ensure that your tablet is connected to ac power during the recovery process.

Creating and using recovery media

You can create recovery media as backups for the Windows recovery environment and the Windows recovery image. If you cannot start the tablet, you can use recovery media to troubleshoot and fix the problems on your tablet.

It is recommended that you create recovery media as early as possible. Once you create recovery media, keep them in a safe place and do not use them to store other data.

Creating recovery media

To create recovery media, you need a USB key with at least 16 GB of storage. The required USB capacity depends on the size of the recovery image.

Attention: Creating recovery media will delete anything stored on the USB key. To avoid data loss, make a backup copy of all the data that you want to keep.

To create recovery media, do the following:

Note: Fully charge your tablet to ensure that there will be no power interruption during the recovery process. For instructions on how to check the battery status, refer to “Checking the battery status” on page 20.

1. Swipe in from the right edge of the screen to display the charms.
2. Tap the **Search** charm.
3. Type `recovery` in the **Search** field. Then tap **Create a recovery drive**.
4. Tap **Yes** in the User Account Control window to allow the Recovery Media Creator program to start.
5. Ensure that you select the **Copy the recovery partition from the PC to the recovery drive.** option. Then tap **Next**.

   Important: If you clear the **Copy the recovery partition from the PC to the recovery drive.** option, you will create recovery media without the recovery partition content. You still can start the tablet from the recovery media, but you might be unable to recover your tablet if the recovery partition on your tablet is damaged.
6. Connect a proper USB key, then tap **Next**.
7. Tap **Create** in the Recovery Drive window. The creation of the recovery media starts.
8. When the creation of the recovery media finishes, do one of the following:
   - To keep the recovery partition on your tablet, tap **Finish**.
   - To delete the recovery partition on your tablet, tap **Delete the recovery partition**.

     Attention: If you delete the recovery partition on your tablet, do keep the recovery media in a safe place. The Windows recovery image will not be stored in your tablet anymore, and you will need the recovery media to refresh or reset your tablet.
9. Remove the USB key. The recovery media are created successfully.

Using recovery media

If you cannot start your tablet, or if you cannot start the Windows recovery image on your tablet, use recovery media to recover your tablet.

To use recovery media, do the following:

Note: Fully charge your tablet to ensure that there will be no power interruption during the recovery process. For instructions on how to check the battery status, refer to “Checking the battery status” on page 20.

1. Press the power button and the volume-up button at the same time when you turn on the tablet. The ThinkPad Tablet Setup program menu opens.
2. Tap **Startup**.
3. In the **Boot** submenu, drag the recovery drive to the first place to select it as the boot device.
4. Save configuration changes and restart the tablet.
5. Follow the instructions on the screen to recover the tablet.

For more information about the recovery solutions provided by the Windows 8.1 operating system, go to: http://go.microsoft.com/fwlink/?LinkID=263800

Select the Windows 8.1 operating system, then follow the instructions on the screen.

Chapter 6. Advanced configuration

If you need to update your system UEFI BIOS, install new device drivers, this information will help you handle your tablet with proper care and keep it in top working shape.

- “Installing device drivers” on page 35
- “ThinkPad Tablet Setup” on page 35
- “Using system management” on page 36

Installing device drivers

The device drivers are available at http://www.lenovo.com/ThinkPadDrivers. Choose your tablet product name to view all the device drivers for your tablet.

Attention: Always go to http://www.lenovo.com/ThinkPadDrivers for the latest device drivers. Do not download them from the Windows Update Web site.

ThinkPad Tablet Setup

Your tablet comes with the ThinkPad Tablet Setup program that enables you to view and configure various setup parameters.

To start the ThinkPad Tablet Setup program, do one of the following:

- Press the power button and the volume-up button at the same time when you turn on the tablet. The ThinkPad Tablet Setup program main menu opens.
- To start the ThinkPad Tablet Setup program from the operating system, do the following:
  1. Swipe in from the right edge of the screen to display the charms.
  2. Tap **Settings** → **Change PC settings**.
  3. In the navigation panel, tap **Update and recovery** → **Recovery**.
  4. In the **Advanced startup** section, tap **Restart now**.
  5. The tablet restarts and a menu is displayed. Tap **Troubleshoot** → **Advanced options** → **UEFI Firmware Settings** → **Restart**.
  6. The tablet restarts and enters the ThinkPad Tablet Setup program.

Note: If you have set a supervisor password, the ThinkPad Tablet Setup program menu will be displayed after you enter the password.

The ThinkPad Tablet Setup program includes the following menus:

- **Main menu**: View the system information and set the date and time for your tablet.
- **Config menu**: View and change the configurations of your tablet.
- **Security menu**: Set the supervisor password and configure other security features of your tablet.
- **Startup menu**: Change the tablet startup settings.
- **Restart menu**: Choose an option for closing the ThinkPad Tablet Setup program and restarting the system.

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On each menu, tap the default value to show selectable options and tap a desired option to select it. You can follow the instructions on the screen to configure settings. After you change the settings, tap **Restart**, and then tap your desired option to restart the tablet.

Notes:

- Some items are displayed on the menu only if the tablet supports the corresponding features.
- The default configurations are already optimized for you. Incorrect change of the configurations might cause unexpected results.

Updating your system UEFI BIOS

The UEFI BIOS is a part of the system programs that make up the basic layer of software built into your tablet. The UEFI BIOS translates the instructions from other software layers.

Your tablet system board has a module called EEPROM, also referred to as flash memory. You can update the UEFI BIOS and the ThinkPad Tablet Setup program by starting your tablet with a flash update optical disc or flash update application running in the Windows environment.

In some instances when you add software, hardware, or a device driver, you might be informed that you must update your UEFI BIOS in order for the new addition to work properly.

To update your UEFI BIOS, go to the following Web site and follow the instructions on the screen:
http://www.lenovo.com/ThinkPadDrivers

Using system management

This section is intended primarily for network administrators.

Your tablet is designed for manageability, so that you can redirect more of your resources to better meet your business objectives.

This manageability, or “Total Cost of Ownership” (TCO), enables you to remotely operate client tablets in the same way as you operate your own tablet, such as turning on a client tablet, formatting hard disk drive, and installing software.

Once the tablet is configured and operational, you can manage it by use of software and manageability features already integrated into the client system and the network.

System management

Read this topic to learn more about features of system management.

Desktop Management Interface

The system UEFI BIOS of your tablet supports an interface called System Management BIOS Reference Specification (SMBIOS) V2.6.1 SMBIOS provides information about the hardware components of your system. It is the responsibility of the BIOS to supply this database with information about itself and the devices on the system board. This specification documents the standards for getting access to this BIOS information.

Preboot eXecution Environment

Preboot eXecution Environment (PXE) technology makes your tablet more manageable (it is PXE 2.1-compliant) by enabling it to boot (load an operating system or another executable image) from a server. Your tablet supports the personal tablet functions that PXE requires. For example, with the appropriate LAN card, your tablet can be booted from the PXE server.

Note: Remote Program Load (RPL) cannot be used with your tablet.

Asset ID EEPROM

The Asset ID EEPROM contains information about the system, including its configuration and the serial numbers of key components. It also includes a number of blank fields in which you can record information about the end users in your network.

Setting management feature

Your network administrator can remotely update the system programs on your tablet from a management console. The following requirements must be met:

- Your tablet must be started over the LAN.
- Your tablet must be engaged in a Preboot eXecution Environment.
- Network-management software must be installed on the remote administrator's computer.

Chapter 7. You and your tablet

This chapter provides the accessibility information about your tablet, and instructions on traveling with the tablet and maintaining the tablet.

Comfort and accessibility

Read this topic to learn how to use your tablet more comfortably and how to use the accessibility features.

Using your tablet more comfortably

With the help of all the conveniences and powerful features of your tablet, you can carry your tablet all day long for work or entertainment at many places. Therefore it is important that you remain attentive to good posture, good lighting, and proper seating to achieve greater comfort with your tablet.

Active sitting and rest breaks: The longer you sit and work with your tablet the more important it is to observe your working posture. Make minor voluntary postural changes and take frequent, short breaks when you use the tablet for a long time. Your tablet is a light and mobile system; remember that it can easily be repositioned to accommodate many posture modifications you might wish to make.

Work area setup options: Familiarize yourself with all of your office furniture so that you know how to adjust your work surface, seat, and other work tools to accommodate your preferences for comfort. If your work area is not in an office setting, be sure to take special note of employing active sitting and utilizing work breaks. Note that there are many ThinkPad product solutions available to help you modify and expand your tablet to best suit your needs. Access the Web site http://www.lenovo.com/essentials to view some of these options. Explore your options for docking solutions and external products that can provide the adjustability and features that you want.

Accessibility information

Accessibility technologies enable users that have hearing, vision, and mobility limitations to access information in the most appropriate way and get the most out of their tablet experience.

Zoom

Zoom in to enlarge the text size. To zoom in, tap the screen with two fingers and then slide them apart.

To reduce the text size, zoom out by dragging your fingers together.

Screen brightness

To set a screen brightness level that works for you, adjust the screen brightness.

Screen reader applications

Screen reader applications can read out software application interfaces, help systems, and a variety of online documents. If you need this feature, go to Windows Store or Lenovo App Store to download a screen reader application.

Getting updates

Your tablet enables you to update the Windows operating system and Lenovo applications.

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Getting updates from Lenovo

Your tablet is preinstalled with System Update. This program enables you to keep the Lenovo software on your tablet up-to-date by downloading and installing software updates.

To start System Update, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap the **Search** charm to search for **System Update**.
3. Tap **System Update**.
4. Follow the instructions on the screen.

Getting updates from Microsoft

To check and keep your Windows, programs, or device drivers up-to-date, see the Windows Help and Support for more information.

Traveling with your tablet

This topic provides information to help you work with and transport your tablet while you traveling.

Travel tips

Use the following travel tips to travel more confidently and efficiently with your tablet:

1. While it is safe to allow your tablet to go through the x ray machines at airport security stations, it is important to keep your eyes on the tablet at all times to prevent theft.
2. Put your tablet in a protective case when not in use to prevent damage or scratching.

Travel tips on airplanes

If you carry your tablet into an airplane, check the following travel tips:

1. If you are going to use the wireless service, check with the airline for any restrictions before boarding the airplane.
2. If there are restrictions on the use of tablets with the wireless feature on an airplane, enable the Airplane mode. To enable it, do the following:
   a. Swipe in from the right edge of the screen to display the charms.
   b. Tap **Settings → Change PC settings**.
   c. In the navigation panel, tap **Network → Airplane mode**.
   d. Slide the control to the right to turn on **Airplane mode** to disable all wireless devices.
3. Be careful about the seat in front of you on the airplane. Place your tablet in a safe position so that it does not get caught when the person in front of you leans back.

Travel accessories

The following is a checklist of things to consider packing when you are going to be away from your office or home:

Travel essentials:

- The ac power adapter that comes with your tablet
- The supplied power cord
- A quality carrying case that provides adequate cushion and protection

If you are traveling to another country or region, you might want to consider these items:

- A ThinkPad 8 AC Adapter for the country to which you are traveling
- A micro SIM card for the local mobile services in that country or region

Other items you might want to consider:

- ThinkPad headphones
- Additional storage devices or flash media cards
- A ThinkPad Tablet DC Charger if you are traveling by automobile

Care and maintenance

Handle your tablet with care so that you can enjoy this product for a long time.

Cleaning your tablet

To clean your tablet, unplug all cables and turn off the tablet by pressing and holding the power button for a few seconds. Then wipe the tablet screen with a soft, lint-free, dry cloth to clear stains and smudges.

Note: Do not use screen cleaners, household cleaners, aerosol sprays, solvents, alcohol, ammonia, or abrasives to clean your tablet.

Protecting the screen with a replaceable film

You can purchase a replaceable film to protect the screen from scratching and extend the life of your tablet. To use a replaceable film, clean the screen first and then apply the replaceable film on the screen.

Storing the tablet for extended periods

If you are not going to use your tablet for an extended period of time, remove the micro SIM card from your tablet, and then pack your tablet with a protective case and store it in a well-ventilated and dry area without direct exposure to sunshine.

Chapter 8. Troubleshooting problems

This chapter describes on what to do if you experience a problem with your tablet.

Diagnosing problems

If you experience problems with your tablet, use the Lenovo Solution Center program as a starting point for solving them.

The Lenovo Solution Center program enables you to troubleshoot and resolve tablet problems. It combines diagnostic tests, system information collection, security status, and support information, along with hints and tips for maximum system performance.

Note: The Lenovo Solution Center program can be downloaded from http://www.lenovo.com/diags.

To run the Lenovo Solution Center program, do the following:

1. Swipe in from the right edge of the screen to display the charms.
2. Tap the **Search** charm to search for **Lenovo Solution Center**.
3. Tap **Lenovo Solution Center**.

For additional information, refer to the Lenovo Solution Center help system.

Note: If you are unable to isolate and repair the problem yourself after running the program, save and print the log files. You will need the log files when you speak to a Lenovo technical support representative.

Troubleshooting

The problems and solutions described in this section are meant only as a guide. They are not definitive problem solving techniques. For some problems, you might need help from Lenovo, your reseller, or your service provider.

When you observe a problem, stop operation immediately, because taking further action might result in data loss or damage. Take a note of what the system is doing and what actions you performed before the problem occurred. Provide detailed information to Lenovo or your service provider for quicker problem resolution.

Internet problem

- **Problem**: Unable to connect to the wireless network.

  Suggested solution: Ensure that:

  – The micro SIM card is valid and workable if you are using a mobile network (3G or 4G).
  – You are within the network's service range and the signal strength is good.
  – Your tablet is not in Airplane mode.

  If the problem persists, contact Lenovo for technical support.

Multi-touch screen problem

- **Problem**: The multi-touch screen responds slowly or improperly.

  Suggested solution: Do the following:

  1. Ensure that your hands are clean and dry when touching the screen.
  2. Restart your tablet to try again.

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If the problem persists, contact Lenovo for technical support.

Battery problem

- **Problem**: The battery does not charge correctly.

  Suggested solution: Check if the ac power adapter is connected correctly. If the connection is good but the battery still does not charge, contact Lenovo to replace with a new battery.

System problem

- **Problem**: Unable to turn the tablet on.

  Suggested solution: Connect your tablet to an ac power outlet to see if the problem is caused by a drained battery. If the problem persists, insert a needle or a straightened paper clip into the emergency-reset hole. To locate the emergency-reset hole, see “Front view and side view” on page 1. If the problem still persists, contact Lenovo for technical support.

Media problems

- **Problem**: The audio quality is poor or there is no sound output.

  Suggested solution: Check and ensure that:

  – The speaker is not covered.
  – The speaker mute function is disabled.
  – If you are using a headset, unplug it, then plug it in again.
  – The volume is not turned to the lowest level.

  If the problem persists, contact Lenovo for technical support.
- **Problem**: A song, video, or other media file cannot be played.

  Suggested solution: Check and ensure that the media file is not corrupted.

External device connection problems

- **Problem**: A connection is not established when you connect the tablet to a computer.

  Suggested solution: Ensure that the tablet USB cable you are using is the one that is shipped with your tablet.
- **Problem**: Bluetooth devices cannot be located.

  Suggested solution: Ensure that:

  – Your tablet Bluetooth is switched on.
  – The Bluetooth feature is activated on the device to which you want to connect.
  – Your tablet and the Bluetooth device are within the maximum Bluetooth range (10 m).

  If the problem persists, contact Lenovo for technical support.

Recovering from a severe software problem

If your tablet stops responding and you cannot turn off the tablet by pressing and holding the power button, insert a needle or a straightened paper clip into the emergency-reset hole to reset the tablet. Then restart your tablet. To locate the emergency-reset hole, see “Front view and side view” on page 1.

If you still encounter the same problem after you restart your tablet, reset your tablet and restart it again, you can perform a factory data reset operation. For more information, refer to “Resetting your tablet to the factory default settings” on page 31.

Error messages

Message: 0183: Bad CRC of Security Settings in EFI Variable. Enter ThinkPad Tablet Setup.

Solution: Checksum of the Security settings in the EFI Variable is not correct. Enter ThinkPad Tablet Setup to check Security settings, and restart the system. If you still have a problem, have the tablet serviced.

Message: 0187: EAIA data access error

Solution: The access to EEPROM is failed. Have the tablet serviced.

Message: 0188: Invalid RFID Serialization Information Area.

Solution: The EEPROM checksum is not correct (block # 0 and 1). The system board should be replaced, and the box serial number needs to be reinstalled. Have the tablet serviced.

Message: 0189: Invalid RFID configuration information area

Solution: The EEPROM checksum is not correct (block # 4 and 5). The system board should be replaced, and the UUID needs to be reinstalled. Have the tablet serviced.

Message: 0190: Critical low-battery error

Solution: The tablet turned off, because the battery is low. Connect the ac power adapter to the tablet and charge the battery.

Message: 0199: System Security - Security password retry count exceeded.

Solution: This message is displayed if you enter a wrong supervisor password more than three times. Confirm the supervisor password and try again. To clear the error, enter the ThinkPad Tablet Setup.

Message: 2200: Machine Type and Serial Number are invalid.

Solution: Machine Type and Serial Number are invalid. Have the tablet serviced.

Message: 2201: Machine UUID is invalid.

Solution: Machine UUID is invalid. Have the tablet serviced.

Message: 2300: Built-in Battery is broken.

Solution: Replace the built-in battery.

Message: 2302: Built-in Battery is not detected.

Solution: Attach or replace the built-in battery.

Errors without messages

- **Problem**: My screen keeps blanking when I do not want it to.

  Solution: You can disable any system timers, such as the LCD turn-off timer or the blank timer by doing the following:

  1. Go the desktop and tap the battery-status icon in the Windows notification area.

2. Tap **More power options → Balanced**.

- **Problem**: When I turn on the tablet, nothing is displayed on the screen and the tablet does not beep while starting up.

  Note: If you are not sure whether you heard any beeps, turn off the tablet by pressing and holding the power button for four seconds or more. Turn it on and listen again.

  Solution: Ensure that:

  – The tablet is connected to the ac power adapter by the supplied USB cable and the ac power adapter is plugged into a working electrical outlet.

    The tablet is turned on. (Turn the power button on again for confirmation.)

  If these items are correctly set, and the screen remains blank, have the tablet serviced.

- **Problem**: When I turn on the tablet, only a white pointer is displayed on a blank screen.

  Solution: Do the following:

  1. Turn off the tablet, and then turn it on again.
  2. If you still see only the pointer on the screen, use the recovery solutions to restore the system to the factory state.

  If the problem persists, have the tablet serviced.

- **Problem**: My screen goes blank while the tablet is on.

  Solution: Your screen saver or power management might have been enabled. Do either of the following:

  – Tap the tablet screen to exit the screen saver.

  – Press the power button to resume from sleep or hibernation mode.

Chapter 9. Getting support

This chapter provides information about getting help and support from Lenovo.

Lenovo technical support

After you buy a ThinkPad 8, register your tablet with Lenovo. Using the registered information, Lenovo can contact you in case of a recall or other severe problems. After you register your tablet with Lenovo, you will receive quicker service when you call Lenovo for help. In addition, some locations offer extended privileges and services to registered users.

To register your tablet with Lenovo, go to http://www.lenovo.com/register and follow the instructions on the screen.

Technical support information is available on the Lenovo Support Web site at http://www.lenovo.com/support.

This Web site is updated with the latest support information such as the following:

- Drivers and software
- Diagnostic solutions
- Product and service warranty
- Product and parts details
- Guides and manuals
- Knowledge base and frequently asked questions

If you need to call the Lenovo Customer Support Center, go to http://www.lenovo.com/support/phone for the latest telephone numbers and hours of operation.

During the warranty period, you can get the following services from the Customer Support Center:

- **Problem determination**: Trained personnel are available to assist you with determining if you have a hardware problem and deciding what action is necessary to fix the problem.
- **Lenovo hardware repair**: If the problem is determined to be caused by Lenovo hardware under warranty, trained service personnel are available to provide the applicable level of service.
- **Engineering change management**: Occasionally, there might be changes that are required after a product has been sold. Lenovo or your reseller, if authorized by Lenovo, will make selected Engineering Changes (ECs) that apply to your hardware available.

For the terms and conditions of the Lenovo Limited Warranty that applies to your tablet, refer to the *Safety, Warranty, and Setup Guide* that comes with your tablet.

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Locating the machine type and model (MTM) number and the system serial number

When calling for technical assistance, you are requested to provide the MTM number and the system serial number of your tablet. To get the MTM number and the serial number, check the MTM label shown as below:

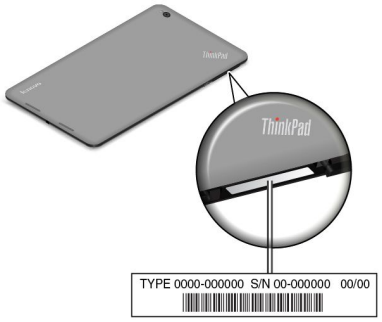

Figure 4. Location of the MTM label

Lenovo user forums

Lenovo provides user forums on the World Wide Web to provide you with a place to search the community knowledge base for information about your tablet, share information with other users, make suggestions to Lenovo, ask questions, and get technical support from Lenovo.

To go to Lenovo user forums, do the following:

1. Go to http://www.lenovo.com/register and follow the instructions on the screen to create an account.
2. Go to http://www.lenovo.com/support.
3. Tap **Community Forums**.

Finding ThinkPad options

If you want to expand the capabilities of your tablet, Lenovo has a number of hardware accessories and upgrades to meet your needs.

You can shop at Lenovo 24 hours a day, 7 days a week directly over the World Wide Web. All you need is an Internet connection and a credit card.

To shop at Lenovo, go to:
http://www.lenovo.com/essentials

Purchasing additional services

During and after the warranty period, you can purchase additional services, such as support for Lenovo and non-Lenovo hardware, operating systems, and application programs; network setup and configuration services; upgraded or extended hardware repair services; and custom installations services. Service availability and service name might vary by country.

For more information about these services, go to:
http://www.lenovo.com/essentials

Appendix A. Regulatory information

This appendix provides regulatory information.

Wireless related information

Wireless interoperability

The M.2 wireless LAN card is designed to be interoperable with any wireless LAN product that is based on Direct Sequence Spread Spectrum (DSSS), Complementary Code Keying (CCK), and/or Orthogonal Frequency Division Multiplexing (OFDM) radio technology, and is compliant to:

- The 802.11b/g Standard, 802.11a/b/g or 802.11n draft 2.0 on Wireless LANs, as defined and approved by the Institute of Electrical and Electronics Engineers.
- The Wireless Fidelity (Wi-Fi) certification as defined by the Wi-Fi Alliance.

The Bluetooth card in your tablet is designed to be interoperable with any Bluetooth product that is compliant to Bluetooth Specification 4.0 as defined by the Bluetooth SIG. The following profiles are supported by your Bluetooth card:

- Advanced Audio Distribution Profile (A2DP)
- A/V Remote Control Profile (AVRCP)
- Dial-Up Networking Profile (DUN)
- File Transfer Profile (FTP)
- Generic Access Profile (GAP)
- Generic A/V Distribution Profile (GAVDP)
- Hardcopy Cable Replacement Profile (HCRP)
- Headset Profile (HSP)
- Hands-Free Profile (HFP)
- Human Interface Device Profile (HID)
- Message Access Profile (MAP)
- Object Exchange Protocol (OBEX)
- Object Push Profile (OPP)
- Personal Area Networking Profile (PAN)
- Phone Book Access Profile (PBAP)
- Service Discovery Protocol (SDP)
- Synchronization Profile (SYNC)
- Video Distribution Profile (VDP)
- Generic Attribute Profile (GATT)
- Proximity Profile

Usage environment and your health

Integrated wireless cards emit radio frequency electromagnetic energy like other radio devices. However, the level of energy emitted is far much less than the electromagnetic energy emitted by wireless devices such as mobile phones.

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Due to the fact that integrated wireless cards operate within the guidelines found in radio frequency safety standards and recommendations, Lenovo believes they are safe for use by consumers. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature.

In some situations or environments, the use of integrated wireless cards might be restricted by the proprietor of the building or responsible representatives of the organization. These situations and areas might for example include:

- Using the integrated wireless cards onboard of airplanes, in hospitals or near petrol stations, blasting areas (with electro-explosive devices), medical implants or body-worn electronic medical devices.
- In any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies on the use of wireless devices in a specific organization, you are encouraged to ask for authorization to use integrated wireless cards prior to turning on the tablet.

Location of the UltraConnect wireless antennas

The ThinkPad 8 features an integrated diversity antenna system built into the display for optimal reception, enabling wireless communication wherever you are.

The following illustration shows the location of each built-in wireless antenna.

Figure 5. Location of the UltraConnect wireless antennas

1 Wireless WAN antenna (Main) (on some models)

2 Wireless WAN antenna (Auxiliary) (on some models)

3 Wireless LAN antenna (Main)

4 Wireless LAN antenna (Auxiliary)

Locating wireless regulatory notices

For more information about the wireless regulatory notices, refer to the *Regulatory Notice* shipped with the tablet.

If the tablet is shipped without the *Regulatory Notice*, you can find it on the Web site at: http://www.lenovo.com/UserManual

Export classification notice

This product is subject to the United States Export Administration Regulations (EAR) and has an Export Classification Control Number (ECCN) of 5A992.c. It can be re-exported except to any of the embargoed countries in the EAR E1 country list.

Electronic emission notices

Federal Communications Commission Declaration of Conformity

The following information refers to the ThinkPad 8 tablet, machine types 20BN, 20BQ, and 20BR.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an authorized dealer or service representative for help.

Lenovo is not responsible for any radio or television interference caused by using other than specified or recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:
Lenovo (United States) Incorporated
1009 Think Place - Building One
Morrisville, NC 27560
Phone Number: 919-294-5900

Industry Canada Class B emission compliance statement

CAN ICES-3(B)/NMB-3(B)

European Union - Compliance to the Electromagnetic Compatibility Directive

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. Lenovo cannot accept responsibility for any failure to satisfy the protection requirements resulting from a nonrecommended modification of the product, including the installation of option cards from other manufacturers.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

EU Contact: Lenovo, Einsteinova 21, 851 01 Bratislava, Slovakia

CE

German Class B compliance statement

Deutschsprachiger EU Hinweis:

Hinweis für Geräte der Klasse B EU-Richtlinie zur Elektromagnetischen Verträglichkeit
Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG (früher 89/336/EWG) zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse B ein.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der Lenovo empfohlene Kabel angeschlossen werden. Lenovo übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der Lenovo verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der Lenovo gesteckt/eingebaut werden.

Deutschland:

Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Betriebsmitteln
Dieses Produkt entspricht dem „Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln“ EMVG (früher „Gesetz über die elektromagnetische Verträglichkeit von Geräten“). Dies ist die Umsetzung der EU-Richtlinie 2004/108/EG (früher 89/336/EWG) in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln, EMVG vom 20. Juli 2007 (früher Gesetz über die elektromagnetische Verträglichkeit von Geräten), bzw. der EMV EG Richtlinie 2004/108/EC (früher 89/336/EWG), für Geräte der Klasse B.

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätserklärung nach Paragraf 5 des EMVG ist die Lenovo (Deutschland) GmbH, Gropiusplatz 10, D-70563 Stuttgart.

Informationen in Hinsicht EMVG Paragraf 4 Abs. (1) 4:
Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse B.

Korea Class B compliance statement

B급 기기(가정용 방송통신기자재)
이 기기는 가정용(B급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다

Japanese VCCI Class B statement

この装置は，クラスB情報技術装置です。 この装置は，家庭環境で使用することを目的としていますが，この装置がラジオやテレビジョン受信機に近接して使用されると，受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。 VCCI-B

Japan compliance statement for products which connect to the power mains with rated current less than or equal to 20 A per phase

日本の定格電流が 20A/相 以下の機器に対する高調波電流規制
高調波電流規格 JIS C 61000-3-2 適合品

Lenovo product service information for Taiwan

台灣 Lenovo 產品服務資訊如下:
荷蘭商聯想股份有限公司台灣分公司
台北市內湖區堤頂大道二段89號5樓
服務電話：0800-000-702

Eurasian compliance mark

EAC

Модели, относящиеся к настоящей серии (семейству) продуктов и впервые выпущенные в обращение до 14 февраля 2013 года, сертифицированы по требованиям Системы сертификации ГОСТ Р и/или по требованиям единой системы сертификации Таможенного Союза, действовавшим в момент сертификации, и маркируются знаком соответствия ГОСТ Р.

Модели, относящиеся к настоящей серии (семейству) продуктов и впервые выпущенные в обращение после 14 февраля 2013 года, сертифицированы в единой системе сертификации Таможенного Союза на соответствие требованиям применимых Технических Регламентов и маркируются знаком EAC.

Brazil regulatory notice

Ouvir sons com mais de 85 decibéis por longos períodos pode provocar danos ao sistema auditivo.

Mexico regulatory notice

Advertencia: En Mexico la operación de este equipo estásujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

Appendix B. Environmental, recycling, and disposal information

Lenovo recycling statement

Lenovo encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Lenovo offers a variety of programs and services to assist equipment owners in recycling their IT products. For information on recycling Lenovo products, go to: http://www.lenovo.com/recycling

Recycling information for Japan

Collecting and recycling a disused Lenovo computer or monitor

If you are a company employee and need to dispose of a Lenovo computer or monitor that is the property of the company, you must do so in accordance with the Law for Promotion of Effective Utilization of Resources. Computers and monitors are categorized as industrial waste and should be properly disposed of by an industrial waste disposal contractor certified by a local government. In accordance with the Law for Promotion of Effective Utilization of Resources, Lenovo Japan provides, through its PC Collecting and Recycling Services, for the collecting, reuse, and recycling of disused computers and monitors. For details, visit the Lenovo Web site at http://www.lenovo.com/recycling/japan.

Pursuant to the Law for Promotion of Effective Utilization of Resources, the collecting and recycling of home-used computers and monitors by the manufacturer was begun on October 1, 2003. This service is provided free of charge for home-used computers sold after October 1, 2003. For details, go to http://www.lenovo.com/recycling/japan.

Disposing of Lenovo computer components

Some Lenovo computer products sold in Japan may have components that contain heavy metals or other environmental sensitive substances. To properly dispose of disused components, such as a printed circuit board or drive, use the methods described above for collecting and recycling a disused computer or monitor.

Disposing of disused lithium batteries from Lenovo computers

A button-shaped lithium battery is installed inside your Lenovo computer to provide power to the computer clock while the computer is off or disconnected from the main power source. If you need to replace it with a new one, contact your place of purchase or contact Lenovo for service. If you need to dispose of a disused lithium battery, insulate it with vinyl tape, contact your place of purchase or an industrial-waste-disposal operator, and follow their instructions.

Disposal of a lithium battery must comply with local ordinances and regulations.

Disposing of a disused battery pack from Lenovo notebook computers

Your Lenovo notebook computer has a lithium ion battery pack or a nickel metal hydride battery pack. If you are a company employee who uses a Lenovo notebook computer and need to dispose of a battery pack, contact the proper person in Lenovo sales, service, or marketing, and follow that person's instructions. You also can refer to the instructions at http://www.lenovo.com/jp/ja/environment/recycle/battery/.

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If you use a Lenovo notebook computer at home and need to dispose of a battery pack, you must comply with local ordinances and regulations. You also can refer to the instructions at http://www.lenovo.com/jp/ja/environment/recycle/battery/.

Recycling information for Brazil

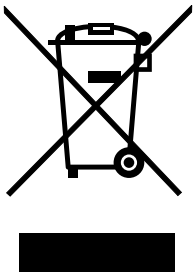
Declarações de Reciclagem no Brasil

Descarte de um Produto Lenovo Fora de Uso

Equipamentos elétricos e eletrônicos não devem ser descartados em lixo comum, mas enviados à pontos de coleta, autorizados pelo fabricante do produto para que sejam encaminhados e processados por empresas especializadas no manuseio de resíduos industriais, devidamente certificadas pelos orgãos ambientais, de acordo com a legislação local.

A Lenovo possui um canal específico para auxiliá-lo no descarte desses produtos. Caso você possua um produto Lenovo em situação de descarte, ligue para o nosso SAC ou encaminhe um e-mail para: reciclar@lenovo.com, informando o modelo, número de série e cidade, a fim de enviarmos as instruções para o correto descarte do seu produto Lenovo.

Important WEEE information



The WEEE marking on Lenovo products applies to countries with WEEE and e-waste regulations (for example, European Directive 2012/19/EU, India E-Waste Management & Handling Rules, 2011). Appliances are labeled in accordance with local regulations concerning waste electrical and electronic equipment (WEEE). These regulations determine the framework for the return and recycling of used appliances as applicable within each geography. This label is applied to various products to indicate that the product is not to be thrown away, but rather put in the established collective systems for reclaiming these end of life products.

Users of electrical and electronic equipment (EEE) with the WEEE marking must not dispose of end of life EEE as unsorted municipal waste, but use the collection framework available to them for the return, recycle, and recovery of WEEE and to minimize any potential effects of EEE on the environment and human health due to the presence of hazardous substances. For additional WEEE information go to: http://www.lenovo.com/recycling

Battery recycling information for Taiwan

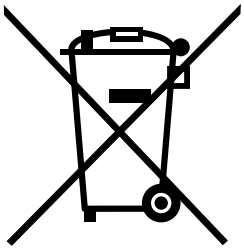
廢電池請回收

Battery recycling information for the United States and Canada

US & Canada Only

Battery recycling information for the European Union

EU



Notice: This mark applies only to countries within the European Union (EU).

Batteries or packaging for batteries are labeled in accordance with European Directive 2006/66/EC concerning batteries and accumulators and waste batteries and accumulators. The Directive determines the framework for the return and recycling of used batteries and accumulators as applicable throughout the European Union. This label is applied to various batteries to indicate that the battery is not to be thrown away, but rather reclaimed upon end of life per this Directive.

In accordance with the European Directive 2006/66/EC, batteries and accumulators are labeled to indicate that they are to be collected separately and recycled at end of life. The label on the battery may also include a chemical symbol for the metal concerned in the battery (Pb for lead, Hg for mercury, and Cd for cadmium). Users of batteries and accumulators must not dispose of batteries and accumulators as unsorted municipal waste, but use the collection framework available to customers for the return, recycling, and treatment of batteries and accumulators. Customer participation is important to minimize any potential effects of batteries and accumulators on the environment and human health due to the potential presence of hazardous substances. For proper collection and treatment, go to:
http://www.lenovo.com/recycling

Recycling information for China

《废弃电器电子产品回收处理管理条例》提示性说明

联想鼓励拥有联想品牌产品的用户当不再需要此类产品时，遵守国家废弃电器电子产品回收处理相关法律法规，将其交给当地具有国家认可的回收处理资质的厂商进行回收处理。更多回收服务信息，请点击进入
http://support.lenovo.com.cn/activity/551.htm

Appendix C. Restriction of Hazardous Substances Directive (RoHS)

European Union RoHS

Lenovo products sold in the European Union, on or after 3 January 2013 meet the requirements of Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (“RoHS recast” or “RoHS 2”).

For more information about Lenovo progress on RoHS, go to:
http://www.lenovo.com/social_responsibility/us/en/RoHS_Communication.pdf

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China RoHS

产品中有害物质的名称及含量

部件名称	铅（Pb）	汞（Hg）	镉（Cd）	六价铬（Cr（VI））	多溴联苯（PBB）	多溴二苯醚（PBDE）
印刷电路板组件	X	O	O	O	O	O
硬盘	X	O	O	O	O	O
光驱	X	O	O	O	O	O
LCD 面板（冷阴极荧光灯背光源）	X	O	O	O	O	O
LCD 面板（LED 背光源）	X	O	O	O	O	O
键盘	X	O	O	O	O	O
内存	X	O	O	O	O	O
电池	X	O	O	O	O	O
电源适配器	X	O	O	O	O	O
底壳、顶盖和扬声器	X	O	O	O	O	O

注：
本表依据SJ/T 11364的规定编制。

O：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572标准规定的限量要求以下。

X：表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 标准规定的限量要求。标有“X”的部件，皆因全球技术发展水平限制而无法实现有害物质的替代。印刷电路板组件包括印刷电路板（PCB）及其组件、集成电路（IC）和连接器。某些型号的产品可能不包含上表中的某些部件，请以实际购买机型为准。

图示：

在中华人民共和国境内销售的电子信息产品上将印有“环保使用期限”（EPuP）符号。圆圈中的数字代表产品的正常环保使用期限。

Turkish RoHS

The Lenovo product meets the requirements of the Republic of Turkey Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (EEE).

Türkiye EEE Yönetmeliğine Uygunluk Beyanı

Bu Lenovo ürünü, T.C. Çevre ve Orman Bakanlığı'nın “Elektrik ve Elektronik Eşyalarda Bazı Zararlı Maddelerin Kullanımının Sınırlandırılmasına Dair Yönetmelik (EEE)” direktiflerine uygundur.

EEE Yönetmeliğine Uygundur.

Ukraine RoHS

Цим підтверджуємо, що продукція Леново відповідає вимогам нормативних актів України, які обмежують вміст небезпечних речовин

India RoHS

RoHS compliant as per E-Waste (Management & Handling) Rules, 2011.

Appendix D. Notices

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Attention: Lenovo Director of Licensing

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Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments might vary significantly. Some measurements might have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements might have been estimated through extrapolation. Actual results might vary. Users of this document should verify the applicable data for their specific environment.

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UltraConnect

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